

REMARKS

In the Office Action dated September 15, 2004, claims 20-27 were rejected under 35 U.S.C. § 112, ¶ 2; claims 1-14, 17-30, and 32-34 were rejected under § 102 over U.S. Patent No. 5,933,838 (Lomet); and claim 31 was rejected under § 103 over Lomet.

Applicant acknowledges the allowance of claims 15 and 16.

REJECTION UNDER 35 U.S.C. § 112, ¶ 2

Claim 20 has been amended to address the § 112 rejection. Withdrawal of the § 112 rejection of claims 20-27 is respectfully requested.

REJECTIONS UNDER 35 U.S.C. §§ 102 AND 103

As amended, claim 1 is allowable over Lomet. Claim 1 recites a database system having one or more storage devices containing a table having plural rows, where the plural rows include a first row containing a before image representing data of the first row of the table before a data modification operation on the first row, and a second row containing an after image representing data of the first row of the table after processing by the data modification operation. The database system of claim 1 further includes a module that is responsive to a read request from a requester, to: (1) return the data in the second row to the requester under a normal condition, and (2) return the data in the first row to the requester under an abort condition in which the modification operation is aborted, the abort condition causing a rollback operation involving the first and second rows to occur, the module to return data in the first row to the requester in response to the read request without having to wait for the rollback operation to complete.

The Office Action pointed to Fig. 11 of Lomet as teaching before and after images (application object 128 and data object 130). The application object 128 cannot be considered either of the first or second rows of claim 1, since the application object does not contain data that is returned to a requester in response to a read request. The data object 130 (which contains identifiers, flags, and addresses) cannot be considered to contain data that is returned to a requester in response to a read request under different conditions (a normal condition and an abort condition). Thus, the data object 130 of Fig. 11 of Lomet, as well as the various data objects depicted in Fig. 24 (stable log), cannot be considered the first and second rows of claim 1. In view of the foregoing, it is respectfully submitted that claim 1 is not anticipated by Lomet.

Amended independent claim 28 is allowable over Lomet for similar reasons.

With respect to amended independent claim 20, Lomet does not disclose a method that includes marking a first row of a table as a before image row containing data of the first row before the start of data modification operation on the first row, and creating a second row as an after image of the first row containing data processed by the data modification operation (where the first and second rows are stored in the table), and in response to a read request from a requester, returning data from the first row to the requester in a first condition, and returning data from the second row to the requester under a second condition.

With respect to independent claim 29, Lomet does not disclose an article comprising at least one storage medium containing a data structure having a table containing plural rows, where each row contains data to be read and written by SQL queries, and each row contains a state identifier. A first row contains a first state identifier having a first value to indicate the first row as being a before image of a data modification operation on the first row, and a second row contains a second state identifier having a second value to indicate the second row as being an after image of the data modification operation on the first row. Neither the data object nor application object depicted in Fig. 11 of Lomet constitutes a row containing data to be read and written by SQL queries -- the content of such objects merely constitute control and address information, not the data to be read and written by SQL queries.

Dependent claims, including newly added dependents claims 35-45, are allowable for at least the same reasons as corresponding independent claims.

Claim 31, which depends from claim 1, was rejected as being obvious over Lomet alone. In view of the amendment of claim 1 to overcome the § 102 rejection over Lomet, the § 103 rejection of claim 31 over Lomet has also been overcome.

Allowance of all claims is respectfully requested. The Commissioner is authorized to charge any additional fees and/or credit any overpayment to Deposit Account No. 14-0225 (9223).

Respectfully submitted,

Date: \_\_\_\_\_

*May 11, 2005*



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